

# GRIP STRUCTURE FOR RACKET OR THE LIKE

## CROSS REFERENCE

This application is a continuation of U.S. Appln. No. 09/884,976, filed on June 21, 2001.

## BACKGROUND OF THE INVENTION

### Field of the Invention

The present invention relates to a grip structure for a racket or the like, and more particularly to a grip structure including a surface material layer, and a substrate material layer which are securely laminated and combined with each other by a plurality of evenly distributed bonding combination points.

### Description of the Related Art

In general, the handgrip of a racket or the like is wound with a grip made of soft material to provide a buffer action to the handgrip of the racket, thereby reducing the vibration or impact applied on the handgrip of the racket.

A conventional grip in accordance with the prior art shown in Fig. 1 is a soft strap 1 consisting of a surface material layer 2 made of PU material, and a substrate material layer 3 made of non-woven fabric, which layers 2 and 3 are laminated with each other. In fabrication, the substrate material layer 3 is immersed into a PU solution, or the surface of the substrate material layer 3 is coated with a PU solution, so that the PU solution is attached on the substrate material layer 3. Then, the substrate material layer 3 is immersed and dipped into a water tank to cool the PU solution, thereby forming the surface material layer 2. At this time, the surface material layer 2 and the substrate material layer 3 are saturated with water so as to expand. Thus, the strap 1 has to be dried.

The surface material layer 2 and the substrate material layer 3 are made of different materials having different water contents, so that when the strap 1 is dried, the surface material layer 2 and the substrate material layer 3 need different periods of drying time. In

1 addition, the surface material layer 2 and the substrate material layer 3 have different  
2 contracting rates during the drying process. Thus, the combination of the surface material  
3 layer 2 and the substrate material layer 3 is not rigid and not stable, so that the surface  
4 material layer 2 and the substrate material layer 3 are easily separated or stripped from each  
5 other during long-term utilization. Further, the weight of the product of the strap 1 is  
6 affected by factors of thickness, water contents, etc. of the surface material layer 2 after  
7 being dried. Thus, the manufacturer cannot estimate and control the weight of the strap  
8 product accurately, thereby greatly affecting the quality of the conventional grip.

### 9 SUMMARY OF THE INVENTION

10 The present invention has arisen to mitigate and/or obviate the disadvantage of the  
11 conventional grip for a racket.

12 The primary objective of the present invention is to provide a grip structure  
13 including a surface material layer, and a substrate material layer which are securely  
14 laminated and combined with each other by a plurality of evenly distributed bonding  
15 combination points so that the surface material layer and the substrate material layer are not  
16 separated or stripped from each other easily, thereby forming a rigid grip structure. In such  
17 a manner, the weight of the grip structure can be controlled easily.

18 Another objective of the present invention is to provide a grip structure, wherein the  
19 plurality of bonding combination points between the surface material layer and the  
20 substrate material layer form an obstruction layer, so that when the grip structure absorbs  
21 water, the water will not easily infiltrate back into the surface material layer, thereby  
22 increasing the permeable effect of the grip structure.

23 In accordance with the present invention, there is provided a grip structure  
24 comprising:

25 a surface material layer;

26 a substrate material layer, with the surface material layer and the substrate

1 material layer laminated with each other; and  
2 a plurality of evenly distributed bonding combination points secured  
3 between the surface material layer and the substrate material layer, so that the surface  
4 material layer can be bonded and combined with the substrate material layer by the  
5 bonding combination points.

6 By such arrangement, the sweat or water will return to infiltrate into the surface of  
7 the grip structure in a slower speed, thereby greatly enhancing the comfortable sensation of  
8 holding the grip structure of the racket.

9 Further benefits and advantages of the present invention will become apparent after  
10 a careful reading of the detailed description with appropriate reference to the  
11 accompanying drawings.

#### 12 **BRIEF DESCRIPTION OF THE DRAWINGS**

13 Fig. 1 is a perspective view of a conventional grip for a racket in accordance with  
14 the prior art;

15 Fig. 2 is an exploded perspective view of a grip structure for a racket in accordance  
16 with the present invention; and

17 Fig. 3 is a partially cut-away front plan cross-sectional assembly view of the grip  
18 structure as shown in Fig. 2.

#### 19 **DETAILED DESCRIPTION OF THE INVENTION**

20 Referring to Figs. 2 and 3, a grip structure for a racket or the like in accordance  
21 with the present invention comprises a surface material layer 10, and a substrate material  
22 layer 20. The surface material layer 10 and the substrate material layer 20 are serially  
23 laminated with each other. A plurality of evenly distributed bonding combination points 30  
24 are secured between the surface material layer 10 and the substrate material layer 20.  
25 Preferably, each of the bonding combination points 30 is an adhesive agent such as a heat  
26 melted gel, so that the surface material layer 10 can be bonded and combined with the

1 substrate material layer 20 by the bonding combination points 30.

2 In fabrication, the surface material layer 10 and the substrate material layer 20 are  
3 pre-fabricated, and the bonding combination points 30 are secured on the top face of the  
4 substrate material layer 20. Then, the surface material layer 10 that has been formed by  
5 prefabrication is coated on the top face of the substrate material layer 20. The bonding  
6 combination points 30 are flattened during a heat press process, for bonding and combining  
7 the surface material layer 10 and the substrate material layer 20, thereby manufacturing the  
8 product of the grip structure. The surface material layer 10 and the substrate material layer  
9 20 are pre-fabricated, so that the weight can be controlled accurately. In addition, the  
10 surface material layer 10 and the substrate material layer 20 need not be dipped and  
11 immersed in the water liquid and to be dried, so that the surface material layer 10 and the  
12 substrate material layer 20 are not deformed by expansion and contraction due to the  
13 temperature effect, thereby enhancing the effect of combination, so that the surface  
14 material layer 10 and the substrate material layer 20 are not stripped easily.

15 Further, when the user's hand sweat is produced, the water molecule passes through  
16 the periphery of each of the bonding combination points 30 to infiltrate into the substrate  
17 material layer 20 gradually. When the sportsman exerts a greater holding force to hold the  
18 handgrip of the racket, the water contained in the pressure bearing region that is subjected  
19 to pressure of the hand will diffuse or expand toward the peripheral portion, thereby  
20 decreasing the humidity. At this time, by obstruction of the bonding combination points 30,  
21 the water contained in the substrate material layer 20 cannot return to infiltrate the surface  
22 material layer 10 immediately. When the holding force is reduced, the pressure bearing  
23 region has a smaller humidity, so that the water contained in the peripheral portion will  
24 return to infiltrate into the pressure bearing region. At this time, by obstruction of the  
25 bonding combination points 30, water contained in the substrate material layer 20 cannot  
26 return to infiltrate into the pressure bearing region immediately. Thus, the humidity

1 contained in the pressure bearing region will not lift rapidly, such (that under the holding  
2 pressure, the sweat or water will return to infiltrate into the surface of the grip at a slower  
3 speed than that of the conventional grip structure, thereby greatly enhancing the  
4 comfortable sensation of holding the grip of the racket.

5 In addition, the surface material layer 10 may be drilled with bores or formed with  
6 recesses (not shown in the figures), so that the hand sweat can infiltrate into the substrate  
7 material layer 20, thereby greatly enhancing the comfortable sensation of holding the grip  
8 of the racket.

9 Although the invention has been explained in relation to its preferred embodiment  
10 as mentioned above, it is to be understood that many other possible modifications and  
11 variations can be made without departing from the scope of the present invention. It is,  
12 therefore, contemplated that the appended claim or claims will cover such modifications  
13 and variations that fall within the true scope of the invention.